Training & Capacity Building

February 2014

Christine Marie George: Working for Safe Drinking Water in Bangladesh

By: Sara Mishamandani

George is an Assistant Professor in the Global Disease Epidemiology and Control Division of the Johns Hopkins Bloomberg School of Public Health.
(Photo courtesy of Christine Marie George)

Leading global environmental health projects wasn't new for Christine Marie George, Ph.D., when she became an assistant professor at Johns Hopkins University in 2012. Prior to her appointment, George led NIEHS-funded health intervention research to reduce arsenic exposure in Bangladesh communities.

"Through the field work I completed as an NIEHS grantee, I gained training on how to design intervention studies, and to develop and implement both quantitative and qualitative survey instruments," said George. "These experiences blossomed my interest in environmental health in global settings."

At Johns Hopkins, George currently works to develop effective water, sanitation, and hygiene interventions that build local capacity, are low in cost, and can be easily integrated into existing national health systems.

Finding Her Niche in Global Health

George received her Ph.D. in 2012 under the guidance of Joseph Graziano, Ph.D., an NIEHS-funded Columbia University Superfund Research Program (SRP) principal investigator. Graziano does research in Bangladesh, where approximately 57 million people are chronically exposed to arsenic in drinking water, to investigate the health effects from exposure to arsenic and manganese. As an SRP trainee, George developed a dissertation project to investigate the best ways to encourage use of low-arsenic drinking water in Bangladesh, which led to six first author peer-reviewed publications.
During her time in Bangladesh, George also directed other studies on safe drinking water interventions. She looked at the effectiveness of training community members to conduct water arsenic testing and disseminate risk communication messages on the health implications of arsenic exposure from drinking, and developed a fee-based water arsenic testing program. She found that the intervention strategy was effective in encouraging the majority of enrolled households to use arsenic safe drinking water sources. UNICEF is currently implementing her program in their nationwide safe drinking water campaign in Bangladesh.

Fostering Interest in Global Health Leadership

Not only did George develop, pilot, and implement the study protocols, survey instruments, community worker trainings, and educational communication materials for the intervention studies during her self-initiated dissertation project, she also managed a field team of 40 interviewers and project staff. During her two years living in Bangladesh, she also completed a 6-month Bangla language training program, allowing her to communicate directly with her field-based team and study participants.

“Learning Bangla really allowed me to build a level of trust in the communities I was engaging,” said George. "I was able to become connected with daily life in rural Bangladesh through making small talk at the local market and chatting with women as they were completing their daily tasks such as making roti or drying rice crop.”

George continues her work in Bangladesh at Johns Hopkins. She is currently conducting a study to promote use of safe drinking water and hand washing to reduce cholera incidence in Dhaka, Bangladesh.

George (left) in the cholera ward in Dhaka. A study promoter (right) is conveying water, sanitation, and hygiene messages to a boy enrolled in George's study.
(Photo courtesy of Christine Marie George)

George (right) with the mother of a child with cholera in Dhaka.
(Photo courtesy of Christine Marie George)